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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,647	06/20/2006	Peter Dirksen	NL040617US1	8794
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EXAMINER				
CHEA, THORL				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/596,647

Applicant(s)

DIRKSEN ET AL.

Examiner

Thori Chea

Art Unit

1721

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 12, 13 and 20-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 12, 13 and 20-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-840)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This office action is responsive to the response the communication on August 18, 2010; claims 1-8, 12-13, 20-26 are pending and considered in this office action; and claims 9-11, 14-19 have been canceled.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-7, 12-13, 20-26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The specification disclosure fails to teach the worker of ordinary skill in the art a coating composition for use in the formation of a "transparent removable protective layer" that "could be altered the solubility thereof by flood exposure at a different wavelength to electromagnetic wavelength used in the projecting step" or altering the solubility thereof by post-exposure bake process, and dissolving such as presented in claim 1, 20. The specification disclosure only teaches that the layer is transparent and the solubility thereof can be altered by an exposure and post baking. There is nowhere in the specification disclosure providing the worker of ordinary skill in the art to provide a composition of the layer that meets the properties being claimed. In the absence of providing a composition thereof, the worker of ordinary skill in art have would

not be able to select a coating composition that meet requirement presented in the claimed invention. Therefore, an undue experimentation is required.

4. Claims 1-8, 12-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification as originally file fails to provide support for "a particular wavelength" and "at different wavelength to the particular wavelength of the projected electromagnetic radiation to ensure that the protective transparent layer (L4) is dissolvable" in claim 1.

The claimed limitations are not found nowhere in the specification disclosure as originally filed and the applicants fails to point out the antecedent basis thereof from the specification disclosure. The specification disclosure does not provide a support the amount of exposure to ensure that the protective transparent layer is dissolvable.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-8, 12-13, 20-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The language "a method of irradiating a surface (L1,L2) comprising a photosensitive layer (L2) on a substrate (L1), wherein the surface (L1, L2) is immersed in immersion fluid (L3)" in claim 1 is unclear as to which to be considered as "surface (L1,L2) " and which considered as "substrate L1" and "photosensitive layer L2), i.e.,

which surface to be irradiated, surface of the substrate or surface of photosensitive layer; which surface be immersed in immersion fluid L3. Claims are confused with the use of the term, surface, layer and substrate. The processing steps presented in the claims are unclear, for instance the step of "applying a removable protective transparent layer (L4) is preformed during the formation of a "blank suitable for patterning" and "immersing the removable protective layer (L4) in immersing fluid without dissolving it". These steps is related to a step of forming a blank and place the blank in immersion fluid, and these step should be performed before irradiating the blank to light to form a latent image. The citing of these steps during the process of irradiating renders the claims confused whether step "applying a removable protective transparent layer (L4) to the surface (L1,L2), wherein the removable protective transparent (L4) serves to space apart the surface (L1,L2) from the immersion fluid (L3) and the "immersing the removable protective transparent layer (L4) in immersing fluid without dissolving it" is performed during the method irradiating or before the irradiating.. It is suggested to rewrite the claims by first providing a blank having a substrate, a photosensitive layer and a removable protective layer thereon and then place the blank in fluid (L3) and then performing a process of forming a resist pattern.

The scope of protection sought of "particular wavelength" is indefinite as it is unclear as to which wavelength to be considered "particular".

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 20-26 are rejected under 35 U.S.C. 103(a) as obvious over Chang et al (US 2005/0123863A1).

Fig.1A contains a material layer (102), a photoresist material (106), and a protective layer (108). The protective layer (108) is capable of preventing out-diffusion of the chemicals in the photoresist layer (106) into the immersion liquid and diffusion of the immersion liquid into the photoresist layer. Fig.1C shows a solubilization step which performed to alter the property of the protective layer (108) so that the corresponding portion of the protective layer (108) are soluble in the development liquid. The solubilization step may included a baking step that make the acid produced in the exposed portions (106a) of the photoresist to diffuse into the protective layer (108). See page 2n [0020] to [0030].

Chang may not disclose whether the protective layer is transparent layer or the protective layer having thickness presented in the claimed invention, but light can pass through the layer to expose the photoresist layer. Therefore, the protective layer taught in Chang is considered as transparent layer. The thickness of the protective layer as claimed may not specifically taught, but the thickness as claimed would have been obvious to the worker of ordinary skill in the art in the absence of showing the criticality thereof, i.e., the worker of ordinary skill in the art would have formed a protective layer than can be patterned by the acid produced by the photoresist layer.

Response to Arguments

9. Applicant's arguments filed November 30, 2010 have been fully considered but they are not persuasive because of the reason set forth above for the reason set forth in the rejection set

forth above. Claim 20-26 are not patentable over Chang et al since Chang et al disclose the performing a solubilizing steps to solubilize the protective layer on the exposed portion of the photoresist in claim 1 and 5. Moreover, the claimed invention is not related to the completely removal of the removable protective transparent presented in the argument. The step of "dissolving the removable protective transparent layer" encompasses the removal the removed portion taught in Chang et al. The thickness claimed in the present invention would have been found obvious to the worker of ordinary skill in the art since the worker of ordinary skill in the art would have provide a thickness of the protective layer taught in Chang et al in such way that the protective layer with a thickness sufficient to be patterned by an acid generated by the resist during exposure. Furthermore, Chang et al may not specifically the claimed thickness, but it is understood to the worker of ordinary skill in the art the layer used in Chang include any thickness inkling that of the claimed invention. In the absence of showing the criticality thereof, the claimed invention would have been found prima facie obvious to the worker of ordinary skill in the art.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thorl Chea whose telephone number is (571) 272-1328. The examiner can normally be reached on 9 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark F. Huff can be reached on (571)272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/TC/
February 4, 2011

/Thorl Chea/
Primary Examiner, Art Unit 1721